

September 5, 2001

Richard Sprott, Director
Division of Air Quality
Department of Environmental Quality
P.O. Box 144820
Salt Lake City, UT 84114-4820

Attention: Milka Radulovic

Dear Director Sprott,

IPSC NOTICE OF INTENT: Uprate Modification at Intermountain

On April 4, 2001, Intermountain Power Service Corporation (IPSC) submitted a Notice of Intent (NOI) to modify the Intermountain Generating Station (IGS) in Delta, Utah. IGS will be modified to uprate capacity. IPSC has submitted additional information as requested for the NOI, including corrections, additional details, and a Best Available Control Technology (BACT) analysis. IPSC has now more clearly defined the scope of this uprate project and presents herein those modifications we intend to complete.

MODIFICATIONS AFFECTING CAPACITY

1. High Pressure Turbine Retrofit:

The high pressure turbine on each unit at IGS is scheduled to be replaced with a current technology, high efficiency turbine. This unit will increase high pressure turbine efficiency from approximately 84% to over 92%. Additionally, the turbine will be sized to provide up to 8.6% additional output.

2. Cooling Tower Performance Upgrade:

The cooling towers on each unit at IGS are scheduled for performance enhancement modifications to increase heat rejection capacity. The enhancement consists of increasing cooling fill surface area by approximately 20% by constructing a new helper cooling tower for each unit. Total circulation flow rates and cycles of concentration will not change. However, flow will be reduced to the present towers by 20%, and redirected to the new helper towers to allow for a larger differential temperature change. To accommodate this expansion, cooling tower transformers feeding the cooling tower fan motors and new towers will be upgraded as well.

3. Boiler Safety Valve Additions:

Rather than add new safety valves, we have determined that we can replace one existing electro relief valve (ERV) with one main steam safety valve on each unit. This will address reliability concerns with the existing valves and accommodate the planned increase in generation capacity.

4. Generator Cooling Enhancement:

IPSC intends to upgrade the current generator and stator cooling systems.

5. Isophase Bus Cooling Enhancement:

The 26kv generator electrical bus feeding the main step-up transformer will be upgraded to enhance the current isophase bus duct cooling systems.

6. Large Motor Bus Loading Equalization:

We plan to equalize the loading between the large and small motor bus. Due to limited tap adjustment capability on the auxiliary transformers feeding these load centers, several motors will be moved from one supply to the other in order to maintain required motor terminal voltages as unit output is increased.

7. Boiler Feed Pump Performance Upgrade:

The boiler feed pump will be enhanced with improved bearing housings, flow path smoothing, and impeller clearance modifications to provide increased pump output and reliability.

8. Main Step-up Transformer Cooling:

The step-up transformers will be modified to increase the transformer cooling system capacity for better temperature control of the transformer oil, core, and housing.

9. High Pressure Heater Drain Line Modifications:

High pressure heater drain lines will be modified to eliminate resonant vibration at increased load.

10. Boiler Modifications:

A comprehensive study was performed by the manufacturer of the boilers (Babcock & Wilcox). This study reviewed all aspects of boiler operation at the new turbine output levels. The study also included evaluation of current technologies and operating practices for minimizing emissions, without the need to replace burners. The study recommended addition of surface area specific to primary superheat section. We intend to add 24 rows of superheat tubes across the full back-pass (convective section) of each boiler. This modification will help eliminate transient temperature

anomalies and provide stable and efficient operation at the new higher rating.

11. Circulating Water Makeup Modifications:

A new circulating water makeup design will support increased makeup requirements and add a degree of redundancy to the system.

MODIFICATIONS AFFECTING EMISSIONS

1. Increase Fuel Flow (Heat Input)

In order to utilize increased capacity, coal combustion will increase approximately 5.9%.

2. Scrubber Wall Ring:

Patented wall rings will be installed in all twelve (12) scrubber absorber vessels to move flow back to the center of the vessel, preventing slip, and providing more efficient SO₂ and acid gas capture in the flue gas.

MODIFICATION TIME LINE

The time line for these modifications will follow the same dates as described in the Gantt chart previously submitted.

We do not intend to make the other modifications described in our original NOI at this time.

EFFECT on EMISSIONS

The emissions change for this project is calculated as follows:

<u>Pollutant</u>	<u>Current Emissions (2yr Avg)</u> <u>tons/year</u>	<u>Emission Increases</u> <u>tons/year</u>	<u>Expected Emissions</u> <u>tons/year</u>
PM10	787.67	9.75	797.41
SO2	3586.31	0.00	3586.31
NOx	25143.97	0.00	25143.97
CO	1317.06	77.56	1394.62
VOC	11.81	0.69	12.50
Lead	0.098	0.007	0.105
Beryllium	0.001195529	-0.00008	0.001119
Mercury	0.081	0.024	0.105
Fluorides (HF)	9.70	0.42	10.12
Sulfuric Acid	4.06	-0.11	3.96
Other HAPs (non-VOC)	59.38	0.40	59.78

We have provided no emission calculations for Hydrogen Sulfide, Total Reduced Sulfur, Reduced Sulfur Compounds, Asbestos, and Vinyl Chloride as we have no emission factors applicable to

these.

We appreciate the efforts of your staff in working with us. IPSC will continue to clarify questions and issues as requested to ensure the approval process proceeds smoothly. If, for some reason your office foresees any problem that could delay the issuance of an approval order, please contact us as soon as possible.

If your or any one of you staff have any questions, please contact Mr. Dennis Killian, Superintendent of Technical Services, and 435-864-4414, or dennis-k@ipsc.com .

Cordially,

S. Gale Chapman
President and Chief Operating Officer

RJC/BP/jg

Enclosure

cc: Blaine Ipson, IPSC
Reed Searle, IPA
Mike Nosanov, LADWP